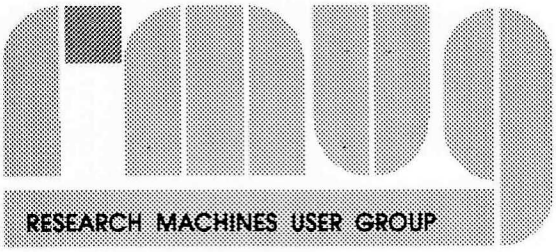
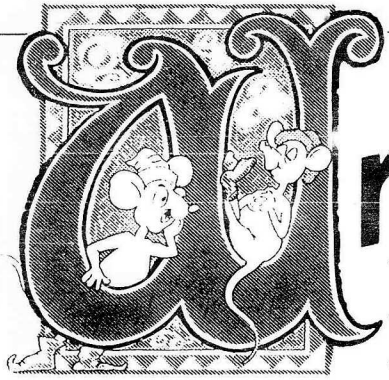
RM User

Volume 7:1

April 1992





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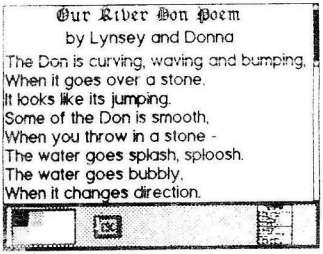
For the beginner . . .


Our River Don Poem
by Lynsey and Donna
The Don is curving, waving and bumping,
When it goes over a stone.
It looks like its jumping.
Some of the Don is smooth,
When you throw in a stone -
The water goes splash, sploosh.
The water goes bubbly,
When it changes direction.

- Full *WYSIWYG* word processing
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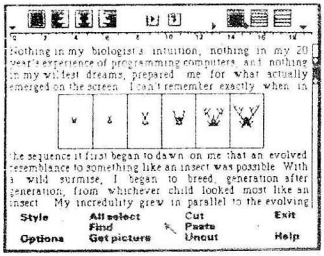
For more advanced users . . .


Nothing in my biologist's intuition, nothing in my 20 years experience of programming computers, and nothing in my wildest dreams, prepared me for what actually emerged on the screen. I can't remember exactly when in
the sequence it first began to dawn on me that an evolved resemblance to something like an insect was possible. With a wild surmise, I began to breed, generation after generation, from whichever child looked most like an insect. My incredulity grew in parallel to the evolving
Style
All select
Cut
Exit
Find
Paste
Options
Get picture
Uncut
Help

- Variable margins and tab stops
- Formatting ruler display
- Include page breaks and footers
- Easy-to-use foreign accents
- Short cuts with function or CTRL keys

Nimbus or IBM £39 + VAT Nimbus network or IBM site licence £109 + VAT

(IBM requires colour EGA graphics)

SPA

PO BOX 59, Leamington Spa,
Warwickshire CV31 3QA
Telephone (0926) 422959 FAX (0926) 422148

Help Line

According to the constitution the User Group exists *to promote the interchange of information and ideas between users of [RM] microcomputers.* There are two main ways in which this can happen. One of these is by using the magazine as a forum in which letters, articles or just short thoughts can be expressed and shared with other members. The other, and the more immediate, is to use the help line.

You may find that you have a problem which you feel is too trivial for Customer Support or you may have a problem with which they can't help, perhaps because you have a non-standard setup for your equipment or you are using third-party equipment. This is the time when we may be able to help.

Remember that you can telephone the User Group members in the evening or at weekends when RM is shut (and, of course, you are just bound to hit problems). Also, RM don't claim to have great knowledge of products which they don't produce such as Excel or PageMaker. They can tell you how to install the packages on their equipment and how to get started but they cannot be expected to give you in depth support on using the packages. We, on the other hand, can. Most of the people whose phone numbers are listed at the back are using the contents of the educational software library on a daily basis. We may have met exactly the problem you have just encountered.

If you are in difficulty, please feel free to ring anybody on the Committee. It is a great help if you are having a problem doing something using your computer if you can be next to it when you phone because it may then be possible to talk you through a solution over the phone.

If your problem is not urgent, or you think it may be difficult to explain over the phone, then do please write to the Editor with your query. I will either reply to you directly or pass your query on to a better person to solve it or publish your letter in the next magazine as a request for help.

If you have had a problem which you have solved for yourself then please share your knowledge; your solution is quite likely to be useful to someone else, even if you think it is trivial; remember that many of our members are new to using RM equipment.

You can also phone Tim Philips on 0284 706233 (home number) regarding PC186 or 380z problems and Mike Fitzgerald has offered help with transferring Quest files between the various hardware and software problems; contact him at Walbottle High School on 091 267 8221.

Please return the membership questionnaire which came with your magazine as soon as possible; it does not matter if you cannot return it by the end of April, we would still like it. We really do want to know **your** opinions.

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RM User 7:5 ..... 25 November 1992
RM User 7:6 ..... 22 January 1993

Note that there are some changes here from the dates advertised in the last issue; I apologise for these changes but I do hope to stick to the new dates. The changes were made in order to spread the magazines more evenly through the year.

Two magazines?

If you have paid £15 for this year's subscription then you will have received two copies of the magazine this month. We are hoping that you will give the spare copy to a colleague who might be interested in joining so that they can see some of what the User Group has to offer.

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News and Editorial

RM Courseware

At our IT Update day, Roger Whitfield from ILECC introduced the Courseware modules which his centre has produced and RM are now including with the networks they sell. So far modules exist for Maths, Science and English. They look very good and they do not attempt to teach the use of each of the network software packages, but instead they look at aspects of the particular subject and bring in the computer when appopriate. I don't have details of how much they will cost if you are not buying a new network but they look good so I hope they will be reasonably priced. One of the nice features is that they each include a section for training staff. They are not intended to be used by IT "specialists" and they do look as if they could help more staff to become involved.

Cambridge Information Technology

Peter Burrows from The University of Cambridge Local Examinations Syndicate (UCLES) described the Cambridge Information Technology Scheme. This is a modular IT course in which students can complete as many or as few modules as appropriate. Again, this is not intended as an end in itself but rather the certificate simply shows that a student has become competent in, for example, word processing while carrying out project work for Geography. I think this looks like an excellent scheme; more information in the next issue or contact Peter at UCLES, 1 Hills Road, Cambridge CB1 2EU.

RM News

After lunch Colin Watkins from RM gave some more information about RM's Insite scheme. This is their package to help schools deliver IT in which RM will not just sell you boxes but will also help you to plan the best use of the equipment. Amongst other things RM will conduct an audit of the use of IT in the school which can then be presented to the Head or the Governors for consideration. I don't have room here to give full details of what looks like an excellent idea (albeit at a price); if you've not yet had a pack from RM then do get in touch to find out more.

Colin also gave some information about the sales over the past year. This included some dramatic changes in their product mix; the PC186 has fallen from 65% of total sales to just 22% and the 386 grown from 4% to 51%. In case you were wondering why the 286 was dropped rather than the 186 it is because the 186 was outselling the 286; it is still a good machine (and is popular in the primary sector) but I think that it may now be overpriced. Actually I think the whole of RM's range is overpriced. Last October there were major price cuts and RM became very competitive. Since then every other manufacturer has cut prices and RM have not. I know that RM make good machines but many of the other machines are equally good. Price cuts soon, please! The next thing for RM to work on is delivery times. Not long ago it seemed that they had got this sorted out but I placed an order at the beginning of April and was told that I "should" get it by the middle of May!

RM have also withdrawn the NB100 machine and the NB200 will go soon. RM see the NB300 as their "long term product offering". Again, I think that the time has come for an upgrade in the base specification. The LCD screen is excellent and makes it ideal for running Windows but a 40Mb disc and 2Mb of RAM is just not enough.

In spite of all my complaints RM must have got most things right; a Romtec survey of direct PC sales (ie those where the manufacturer sells direct to the end user rather than through dealers) gives RM as

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the second biggest company last year in terms of unit sales (just beaten by Elonex but well ahead of Dell, ICL UK, Olivetti UK, Opus and Viglen).

RM server warranties and support

There are changes to the warranties offered by RM for new servers (stations and standalones still have the same three year, return to manufacturer warranty). The first year will still be free and bring an engineer on site but for years 2 and 3 you will get on-site warranty and have to pay 50% of the current charge for this service (this will be about £100 per year). RM claim, rightly I think, that you can't cope with a server going away to be repaired so it doesn't make sense for them to have a free service which leaves you without a system. The repair that is carried out will not just get the system working but will guarantee to get you back to the point of your last backup. This is excellent; it's no good having an engineer just fitting a new Winchester to the machine and then leaving you to sort things out. Also included in the first year's warranty cover for RM Net LM servers is "Basic Support". This gives you access to a special hotline phone number so that when you do get through you will be speaking to people who know about LM, rather than someone who has more general knowledge of the products RM support. You will also get a subscription to the Technical Support Bulletin, which is a "regular" publication listing useful information for anyone supporting RM equipment and you also get a training course in using LM. During the year you will also get automatic distribution of software fixes (at last!) and you will be given a set of network manager's guidelines and an event log in which you can record changes etc that you make to the system. This last is a good idea. Even if you don't have a network, let alone RM Net LM, it is a **very** good idea to keep a record of changes you make to your system, either in written form if the changes are minor or as a disc copy of major files that you change, so that when things start behaving strangely you can backtrack to the last known working version.

In addition to the Basic Support you can also subscribe to RM's Standard Support; this gives you Basic Support plus an annual IT survey and IT optimisation service. In addition, RM will install a telephone line and modem to link into your server. In this way if you are having problems then RM can log on to your server and check things out while talking to you. Check with RM for further details; it costs £1100 in the first year and £1500 afterwards (ie £1100 plus £400 for the Basic Support). I don't know how much a similar service would cost from other suppliers so I don't know if it's good value.

Windows 3.1

By now you will know that Windows 3.1 is available from Microsoft and it looks like a very impressive package; I've mentioned before that I see its major benefit being the inclusion of True Type (a scaleable font system which allows you to get the same fonts on any printer supported by Windows) but the fact that it seems to work faster, suffer from fewer errors and has lots of small touches to make it easier to work with are all welcome. You can buy it direct from Microsoft or from a dealer (upgrades for £45 and I've seen the full product advertised for as little as £59) or you can wait and get it from RM, hopefully for a much lower price. I was told that it will be available with new networks "by the summer". (I know that the whole of RM Net LM has been written with a view to upgrading to Windows 3.1 so it *should* be this summer!) Microsoft Lan Manager version 2 has just been released and I understand that RM Net LM will be based on this by the end of the year. I don't know whether RM will also be moving to OS/2 2.0 as well; they are currently shipping

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v1.3 and this is probably fine for use on a server. (The problems with OS/2 v1.3 seem to be when running DOS or Windows applications. You are unlikely to want to do that on the server so there should be no problem).

VGA to TV interfaces

I've recently come across two companies that sell interfaces to allow you to connect a computer's VGA output to a TV with a SCART input socket so that you can have a large display screen. Brand New Technology at Unit 22, Grays Farm Village, Grays Farm Road, St Pauls Cray, Orpington, Kent BR5 3BD (Tel: 081 309 1829) sell two models; one of which needs an extra card added to the PC and one which just plugs straight into the VGA socket on the computer. The other company is Stovekirk, 9-11 Fleet Road, Fleet, Hampshire (Tel: 0252 624411). The other alternative is to use one of the LCD displays which also plug into the VGA socket and then sit on top of an overhead projector. This is obviously convenient but at the moment it is **very** expensive; be prepared to pay more than £5000 (!) for a top quality colour display.

RM Net LM queries

In the last issue I reviewed RM Net LM and included a number of questions. I now have some of the answers; my thanks to Richard Naylor at Methodist College, Belfast and Hugh Wilding at Claire's Court School, Maidenhead for inviting me to presentations where I was able to ask my questions. It is possible to import a complete file of names and passwords from Net 3, provided that you can produce them in CSV format (NMS3 from Edhitec lets you do this, as do the advanced net management utilities from RM but the former is cheaper and more versatile). If you create new users then they are all given a default password and will need to set their own password when they first log on, I'm still not sure about print auditing; obviously no-one else wants to use it, but it seems that the information it gives you is simply the volume of data sent to the printer. I suppose this is better than nothing. Although a figure of 1Mb could mean hundreds of pages of text or 1 page of graphics the ink or ribbon usage and the wear on the printer is going to be similar so if you are looking at some way of preventing users from wasting print resources then you could restrict them to a certain volume of data per month. LM Spool + will allow remote printing from any station (as long as you don't reset it while printing takes place) and costs £499 per network. This could be a lot cheaper than the Net 3 option at £99 per station if you have a lot of printers. RM have announced prices for the licence to allow you to connect other machines to an RM Net LM network. You will pay £250 for a basic licence which gives you access to the server (but does not allow you use of the software library) or £1000 for the right to have full access to all the software. I think RM are basically saying they don't want you to use other machines on their network; a 386 station with 4Mb of memory and colour monitor costs just £169 more than this so I really can't see many people buying such a licence. I know RM have put a lot of investment into developing the new network but I think I'd rather they just said "No" rather than coming up with silly prices!

Control Technology

I went to an excellent session on Control at Methodist College. This is one area where I feel I lack both the knowledge and the equipment and it was good to see what can be done. Logicator for Windows is a superb product for controlling almost anything you want to plug into a computer. It is available for PC186 and M series machines and costs £120 for a single licence or £220 for a network, which seems a very reasonable premium for network use. Of course, there is a further cost. If you have a PC186 then you can add a BBC style user port for less than £50. The equivalent for an M series

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machine is £120 with the most versatile option being a Smartbox from Economatics at £220. This plugs into the serial port and so can be easily moved between machines. It gives 8 inputs and outputs plus an analogue input so it is very verstatile but it seems expensive. Does anyone know of anything better or cheaper?

SPA News

Software Production Associates have been producing excellent software for RM computers for 10 years now and you will see reviews of new items in this and the next issues. I would like, however, to mention a couple of items for the award winning NewSPAper package. Firstly there is a disc of crossword fonts for NewSPAper. I've had endless problems with pupils wanting to put wordsquares or crosswords into their newspapers before now. If you work in the Illustrator's its hard to get the text right and at the Reporter's desk you can't draw the lines. The crossword fonts solve this problem quite brilliantly. The other item is a second disc of artwork for NewSPAper which includes an assortment of flags, fish and animals, together with cages and fish tanks and toys for the pets. Each package costs £12 for a single machine or £29 per 16 users. Further details from SPA on 0926 422959.

Network Management Utilities

In RM User 6:5 Keith Whiddon (who is advisory teacher for IT in Surrey) wrote about some Network management Utilities running under Windows 3 for Net 3.1; these are now available for just £10 from him on: 0932 232402. At the same time he mentioned some other network management tools which he had written using batch files. These, and the Group Manager program mentioned in this magazine, are now available from our software library.

RM Upgrades

RM have now published a list of all the upgrades which are available through their service centre; there are too many to list here. Some of the prices are excellent, some less so! I think the problem is that there is almost a fixed labour charge involved so a low cost upgrade like fitting an extra floppy drive takes the same time as adding a hard drive which is worth a lot more.

One of the upgrades you are quite likely to need these days with Windows programs growing ever bigger, is a new hard drive. For an M Series machine the move from a 30 or 40Mb drive to 80Mb costs about £350, to 160Mb costs about £550. Remember, before you start looking at third party drives, that this includes the installation process at RM and a warranty from them so it does look quite fair. It's also possible to upgrade a PC286 to a PC386 or an AX to a VX. Phone RM for details on 0235 826000.

Image Editing

Paint Shop Pro has just been released; for those of you who have never met the original Paint Shop, it is a program which will copy any part of the screen and save it as a file in almost any format, it will also convert between formats. I hope to have an article on this subject next month but the new versoin seems even better and is available for £39 from The Thompson partnership on 0889 564601

Advanced IT and Schools Symposium

This includes sessions on Imagining Machines, Laptops in schools and the implications of CD Interactive for schools. It takes place on Friday 19 June at Imperial College London and will include an exhibition of practical applications of IT across the curriculum. Contact Derek Brough on 071 589 5111 for further details.

Hot Stuff, A Collection of PC Graphics

The cheapest CD ROM I know is available for £3.53 inc. VAT and P&P from Screen Artists Ltd, 123 Westmead Road,, Sutton, Surrey, SM1 4JH Tel: 081 642 1370. It's mainly graphic demos and it shows what can be achieved if you are artistic! Well worth it but you must have a VGA screen.

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TinyLogo A review

Joe Gallagher (Cyril Jackson School)

Logo is the only computer language specifically mentioned in the National Curriculum and while many teachers are appreciative of the power of this open ended program a surprising number are intimidated by the steepness of the learning curve that has to be scaled by teachers as well as children! The Logo available for the Nimbus, RMLogo, is a powerful implementation of the language but is however not noted for its friendliness to naive users. Many teachers are attracted by the mathematical potential of turtle graphics but find that even this aspect of Logo requires a fair bit of hand holding if they want to introduce it to young users.

TinyLogo goes some way to resolving this problem. It is designed as an introduction to the idea of moving a turtle-like figure around the screen drawing or erasing as it goes. It feels like using the real thing, save in one important respect. In Logo, the turtle's turns, in the initial stages, are always relative to the direction it is currently pointing towards. This is usually referred to as its' "heading". Undoubtedly this is a useful feature and one which enables children to produce all those attractive geometrical patterns which tend to adorn books about Logo. However, for young children at Piaget's egocentric stage, this can be quite confusing. It is for this reason that many experts argue that children should have the opportunity to "do Logo" with a mechanical turtle such as the Valiant turtle. Most people would agree with this in principle but the practicalities of everyday class life, let alone the costs involved, mean that it would not be possible to provide as much exposure to Logo as one would desire using such a "concrete" approach.

TinyLogo is operated almost entirely through means of mouse control. Direction is chosen by clicking on one of a series of icons which represent the points of the compass and distance is similarly chosen by pointing to a number from 1 to 10. It is possible to undo an action by retracing your steps using the background colour (black) as the current pen colour. Although not as straightforward as the usual Logo convention of making the turtle's pen into an eraser, this is an interesting feature as "reversiblity" is a mathematical concept that features prominently in the infant curriculum. It is also possible to wipe the whole screen by clicking on a black box at the top of the screen. Unfortunately this is just a bit too easy to do unwittingly, especially for young hands! Whilst I'm all in favour of independence in young learners, it may have been more advisable to have built in some way of confirming that the child really wished to take such drastic action. Imagine if it were possible to wipe out a morning's writing at the click of a button.Strangely enough this action is duplicated by one of the function keys and in this case the child is required to type in yes to confirm the action.

The function keys are also used for several "housekeeping" activities such as loading and saving of files and printing. As in Logo proper, there is a facility to record a series of actions as a procedure for later execution. The procedure is created by clicking on a series of boxes at the bottom of the screen after carrying each action out. This is a nice feature as it allows the child to develop what amounts to a mini program in a highly interactive way. To execute the procedure is simply a matter of clicking on the "GO" icon at the side of the screen and away it trundles! Before setting this in motion the child can choose the speed at which it is carried out and also whether the action is to be repeated continuously until

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interrupted. Using this feature, it is possible, even for novice users, to quickly develop fairly elaborate patterns. My only reservation about it is the fact that the only way to edit a procedure is to delete it completely rather than alter individual commands within it. Unfortunately this will tend to discourage a reflective attitude towards development of a procedure as children don't tend to note down moves as they take place. One way around this, I have found, is to provide cards of the command icons to enable the children to plan and record their moves as they take place. These can be used for other activities away from the computer such as predicting shapes or patterns and can even be used in more concrete activities such as investigating routes and paths. In doing so, it is possible to provide a nice linkage between the children's work both on and off the computer.

The program seems to run quite happily from a network without too much fiddling around although no installation procedure is provided. It does have one glaring design fault though and that concerns printing. Printing is carried out by pressing one of the function keys and once this is done there is absolutely no way of changing your mind save by rebooting the system

I'm impressed by the amount of discussion that it stimulates when used by pairs of children (and interested onlookers too!). However the program also seems to attract and sustain the interest of those individuals who like to experiment on their own. We've only been using TinyLogo with young infants for a relatively short time. However I'm already excited by the potential of a program such as this for introducing and extending mathematical concepts which the children will experience in other realms of activity. There are a few enhancements which I would have like to have seen such as support for the concept keyboard, a facility to "fill" enclosed shapes, improved printing control and the ability to save a child's screen to disc. The program also has a few quirks, as users will discover, but at at an asking price of around £15 (for which you also get a lookalike graphics program, Tinydraw) I can't seriously fault this package in terms of value for money. While Tinydraw is not intended as a substitute for the real thing, it should, if nothing else, enable all teachers of young children to begin exploring some of the possibilities afforded by this exciting environment for learning and hopefully go on to greater things!

TinyLogo costs £15 and is available from: Northamptonshire Computer Education Centre Covington St. Northampton NN1 5JU Tel: 0604 24190

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Technical Tips

Stephen D. Sharrad.

In this brief section I hope to explain some problems which I have encountered or some suggestions which I have found useful when using RM equipment.

ART and TIME

Many of you will have used this excellent program and you will know that when you start ARTIME it asks you for a suitable painting program, such as PC Paintbrush (by ZSOFT.) This does, however, corrupt your copy of PC Paintbrush which you use with ARTIME. If you attempt to run your disk which has been used in conjunction with ARTIME, the program will barely work, and it will keep on asking "Insert Disc with Batch file and press any key..." So, when you do use Paintbrush with ARTIME, make a back-up of your Paintbrush disc!

NORTON UTILITIES

This is a very good set of utilities which is designed for the IBM machine but it will run on a PC-186 under SETPC. The utilities include disc-revival, unformatting and disc-editing. So, if you are thinking of obtaining a copy of Norton for your PC-186, I must warn you first. It will run perfectly on any RM "M" series or "X" series, but on a PC-186, because SETPC alone does not support some direct hardware access routines, you need to be careful. As far as I know, there is just one program of the utilities which can be a problem. Norton Disc Doctor, the program which corrects bad discs, when run on a PC-186 with a hard disc will say something to the effect that your hard disc type is invalid. The next thing that it will say is that there is something wrong with the Boot Record of the hard disc. It will ask you if you want the problem corrected. Warning - do not do it whatever you do! As the PC-186 is not a true IBM even when used with SETPC, the PC-186 behaves differently from an IBM. If you do correct the problem which Norton says is there, and take note if you have done so - when you next try to access the hard disc you will get a Non-DOS disc error. I know this from experience (UGH!) This is a bit like using the RM Utility HARDDISK, but Norton is trying to correct a problem which isn't there!

You must now re-format your hard disc. Even now, there is is a chance that you can get your data back. Use the Norton Utility Format Recover and all but the files of the Root Directory will be restored.

There is a better chance of getting your files back, and this leads in to accidental formatting. Periodically use the SAVE option on Format Recover - and if anything does happen, there is a better guarantee of getting your data back. Or you can copy the files back onto your hard disc from backup discs.

This is using Norton Utilities version 4.50 Advanced, but it is probably the same with any other version.

BACKUP

If you have a hard disc, you will probably be familiar with the MS-DOS Backup and Restore commands. If, however, like me, you find these tasks really slow and tedious, and yet you do not have a tape-streamer (a form of media which allows you store large amounts of backup information) then I can recommend several utilities that are available which do the job quicker - and some crunch, or archive your data so that you do not need so many backup discs. Ones to try are LZHARC (with its comparable Restore command, LZXHARC) and also PKZIP and PKUNZIP. Most of these programs are available as shareware.

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SUBST

If you are a keen MS-DOS user, you may know that you can use the SUBST command to SUBSTitue a letter for a a pathname or string, e.g.

```
SUBST X: C:\PUBLIC\FILES\FEDUP
```

means that instead of typing

```
CD\PUBLIC\FILES\FEDUP
```

you can just type

```
X:
```

However, you may have tried just such a command and found that it wouldn't work. One thing that is omitted from you Owners Handbook is that in the CONFIG.SYS of the root directory on a System disk, you need to include the command

```
LASTDRIVE=x
```

where X is a drive letter, e.g. Z. This tells DOS basically up to which drive letters can be used. The default is E. Hence the problem if you do not include a LASTDRIVE command and attempt to use SUBST. SUBST G: will only work if LASTDRIVE is set to G or beyond. Setting a higher LASTDRIVE than the default E does take up a little more DOS memory but at least you can then use SUBST.

HANGMAN

Finally, calling all teachers! I can recommend a very good piece of software designed for the RM Nimbus using RM BASIC (PC-186 or other RM PC under XMODE RM.) which has been written by my twin brother, Andrew. It is called Hangman and is designed to help any young person between the ages of 5-14 to spell. It has good colour graphics and is very addictive. More details can be obtained on (0491) 577149.

I've just put together a disc of the programs I commonly use to help with backing up, including the ones which Stephen mentions; they should be available from Sheila Maynard by the time you read this. I've also included a program called FILL which lets you copy files onto multiple floppies; it works out the best order to copy so that each disc is as full as possible and asks you to change discs when necessary. If you have a network you will have a copy of RMTREE on it. Typing

```
RMTREE COPY C:\*.* A:
```

will copy all the files (including subdirectories) to drive A and will ask you for new discs as necessary. It does much more besides this but I don't know if you can actually buy it from RM unless you buy a whole network!

I used PKZip an awful lot when I only had a 10Mbyte hard disc. I zipped PageMaker and Word for Windows and then copied the Zip files onto floppies. When I wanted to use Word I deleted the PageMaker directory from the hard disc and unzipped Word, reversing the process to use PageMaker. As long as you don't delete the document files (keep them in a different directory for safety!) the process is quite quick and lets you do real work with a small hard disc.

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Group Managers on NET 3.0/1

Keith Whiddon

I manage a network which has evolved over the years into a reasonably large system. What is pleasing, is the increasing demand placed on the system by the school curriculum. This has motivated me to devise methods by which subject specific staff can manage their own areas of the network, with some degree of autonomy, yet with the minimum of I.T. knowledge.

For example, the P.E. Department are making use of Excel in Years 8 and 9. I have set up a group called "PEGROUP" with 20 users (PE1 - PE20), and have prepared a suitable Program Manager "menu". All runs smoothly, until the P.E. teacher wants me to add a couple of new files to each user area in the group. Whilst this isn't a major management task, there is often a day or two's delay while I get around to doing it for him! Multiply this by the other subject areas' demands and the delays add up.

I am most reluctant to give full Network Manager status to a growing number of people - what they really want is Group Manager status. I achieve this by setting up a new secure user in Netman (Eg PEMGR), but I change their connection (F6 - User's Connections) from;

[N] C:\SECURE\PEMGR

to the root of the user group;

Eg. **[N] C:\PEGROUP**

I also change the command processor to **?:\COMMAND.COM**, so that their AUTOEXEC.BAT file is run. When the new PEMGR logs on, his user area will be the root directory of the PE Group and therefore, all the PE users' directories will be accessible to him.

To make the task of managing the user's directories easier, I have written a simple menu driven program (GROUPMGR.EXE) which resides in the Group Manager's user area. The program enables the Group Manager to browse through the files in each user area, to copy a file/s from a disk to all/some areas or to delete a file/s from all/some areas. In this way the Group Manager need have minimal knowledge of MSDOS. My typical Group Manager AUTOEXEC.BAT file reads;

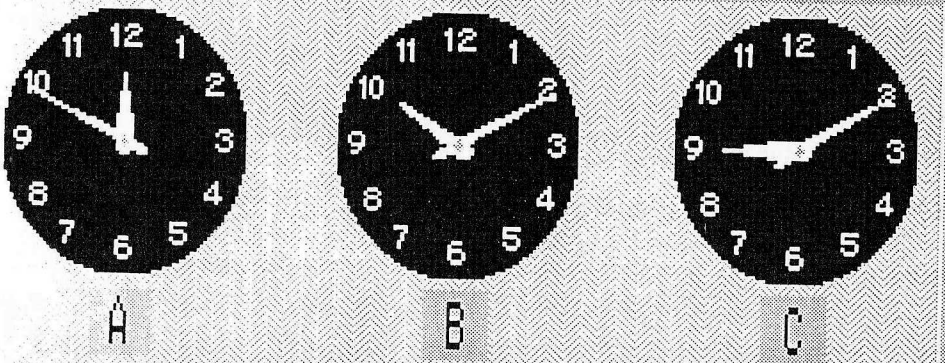
```
ECHO OFF
CLS
GROUPMGR
EXIT
```

so that when GROUPMGR.EXE terminates, they are automatically logged off the network - never to enter DOS!

GROUPMGR.EXE is in the RM USER library if you would like to try it.

Keith Whiddon,
Advisory Teacher I.T.
Surrey,
Tel 0932 232402

Horlogerie



Vous êtes dans l'horlogerie. Il y a beaucoup d'horloges accrochées au mur. Il est vingt et une heures dix.

Laquelle de ces horloges indique la même heure?

Appuyez sur A, B, ou C:

A B C

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Le Calice Magique

Ian Lane

"Le Calice Magique" was very straightforward to install and within minutes of receiving the package the quest for the magic chalice was underway. Many more than minutes later it was still going on but, it has to be said, much fun was had by all.

The object of the adventure is to restore "le calice magique" to its rightful place - your house. All of this happens in a little French town you discover as the game unfolds.

The package relies heavily on written text but it serves as an ideal vehicle for developing reading skills in the more able linguist from Year 9 upwards. The language is quite difficult at times, some of the vocabulary is very unusual and the glossary deserves to be recommended as a necessary part of the student's equipment. I used it on several occasions. I would also make sure that students had copies of the maps and that they were fully briefed before undertaking the challenge. For example, it's not enough to purchase an item - you have to "pick it up" as well. To give something to the policewoman, you have to "put it down"!? Also, one or two of the instructions are unfortunate - "Entrer" instead of "Monter" for getting on a train, "Offrir de l'argent" instead of "Payer".

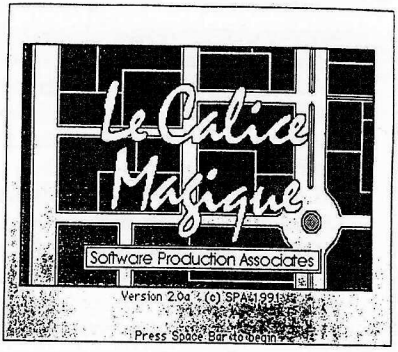
When you have been playing for so long, you are reminded that you are hungry, so you have to eat. You cannot eat until you have bought food, you cannot buy food until you have money, you can't have money until you've been to the bank and going to the bank is no use unless you have your PIN number. The idea of the PIN number is a good one but my sanity could have done without some of the intermediate stages. The initial novelty of going backwards and forwards can wear a bit thin.

The puzzles that are incorporated into the game do offer an added dimension but it's a pity that they appear to be "bolted-on" to the main task at hand. They might have been able to form an interesting part of the quest.

Despite its faults, "Le Calice Magique" offers something of interest and fun to stretch the more able young linguist and is a worthy consideration for departmental budgeting. If you can convince your IT co-ordinator to buy it instead, better still.

"Le Calice Magique" is available from SPA at PO Box 59, Leamington Spa, Warwickshire, CV31 3QA Tel: 0926 422959.

Ian Lane is Assistant Headteacher at Walker School, Newcastle Upon Tyne.



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Report on the Annual General Meeting held at ILECC on Saturday 28 March 1992

The Chairman (Les Watson) presented a report on the activities of the group during the year. The year has seen an increase in membership, an excellent training weekend at Woolley Hall and six editions of the magazine RM User. We launched a new logo at Woolley Hall and this now appears on our mouse mats and the magazine. RM have agreed to include leaflets about the group in the boxes that go to home purchasers and this has been very successful.

We are about to carry out a survey of members to find what they want from the group (this form is included with this issue of the magazine) and we are hoping to set up a training network; local groups, centrally supported which can provide training and meetings at a local level to supplement the nationally arranged meetings.

Membership has risen from a low of less than 500 in 1990 to 580 now and this is in part due to the new personal members who have joined as a result of finding leaflets in the boxes that RM ship. About half our members work in secondary education, roughly one fifth in HE and FE, a further fifth are personal users and the remaining tenth are working in a large number of different areas.

The User Group is in a fairly healthy position financially; the accounts are shown on page 17. This year's Training Weekend cost slightly more than anticipated because we had to find new lecturers for one of the courses at the last minute and this proved to be very expensive. Allowing for a small surplus from the previous year we still have a small float to carry forward to the next weekend; the weekend is not intended to run at a profit but to provide a service to members. (For those of you who wonder how subscriptions at £15 can produce and income with an odd number of pence, this is because your membership secretary includes money sent for back issues of the magazine, including postage, in the membership money.) We have two separate bank accounts; a high interest deposit account and a current account and you will note that the interest far exceeds the bank charges.

The magazine was published more or less on time for each issue last year and your editor will attempt to keep to the stated publication dates for each issue in the coming year. Very little feedback is received by the editor; this may mean that the magazine is generally perceived to be OK or it may mean that no-one reads it. The editor would appreciate comment, favourable or otherwise! The group will continue to accept advertising for the magazine but it is not our intention to produce a magazine with more adverts than editorial content.

The software library has seen a decline in demand as more people move from wanting hardware or programming oriented software towards using applications and it is our intention to review the aims of the library; perhaps including more demo discs and shareware. Feedback from members would be most welcome.

A number of changes to the constitution were proposed and adopted; the complete constitution is reproduced on page 17.

New membership fees were adopted for the year 1992-1993: members who join by responding to the leaflets RM distribute in boxes going to home users will pay £10 for their first year and receive one copy of the magazine. All other members will pay £15 (no change from last year) but will now receive 2 copies of the magazine. (The idea behind this is to try and recruit more members; each member will now be able to pass on the second issue to someone else

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and perhaps encourage them to join).

Remuneration was set at £250 per issue for the editor, £250 plus up to £100 for secretarial expenses for the events organiser and 10% of advertising income for the advertising manager.

The following were elected to the committee:

Les Watson	(chair)
Ian Burgess	(vice-chair)
John Williams	(secretary)
Helen Williams	(treasurer)
Steve Rochford	(membership sec.)
Sheila Maynard	(software librarian)
Myfanwy Wallace	(Advertising Mgr)
Phillip Fox	
Geoff Strack	
Keith Whiddon	

Under Any Other Business, Les Watson welcomed Ms A Skinner, the manager of the Superbase User Group who was available to hear views and take questions (the Superbase User Group may be contacted at Brownings Farm, Blackboys, Uckfield, East Sussex TN22 5HG. Tel: 0825 890060. Membership costs £50+VAT per year for an individual or for a single member in an educational institution)

Constitution

Objectives

The objectives of the group are to promote the interchange of information and ideas between users of microcomputers manufactured by Research Machines plc, to encourage the formation of regional and other specialist groups of users of the above mentioned microcomputers, and to represent the views of users to Research Machines plc. To this end, the elected Committee shall, if possible, be representative of a cross-section of Research Machines users.

Membership

Membership of the group shall be open to institutions and individuals who are actual or intended users of Research Machines plc computers. Annual membership fees will be charged. These fees will be set by the Committee and ratified by the Annual General Meeting.

Committee

The Committee shall consist of a chairperson, vice-chair, secretary, treasurer and membership secretary, who shall be elected by the AGM, plus up to seven other committee members who shall be elected or co-opted. With the exception of co-opted members no member shall serve on the committee for more than five years in any one continuous period of seven years. The position of co-opted members shall be reviewed annually by the committee. The committee may invite Research Machines plc to nominate representatives to attend its meetings.

Activities

The committee will handle teh day-to-day business of the Group, and shall be elected at an annual meeting arranged in the spring of each year. The committee will be responsible for arranging such other meetings within the year as it deems necessary.

Remuneration

Remuneration for officers shall be set by the Committee and ratified by the Annual General Meeting.

Adopted March 12th 1983

Last amended March 28th 1992

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RM User Group Statement of Accounts 28 March 1992

	Income	Expenditure
Balance brought forward	5856.47	
Membership Fees	7145.49	
Software	22.50	
Bank interest	331.74	
Bank charges		86.77
RM User		
Advertisers	2565.00	
Printing		2835.08
Editor		1500.00
Articles		335.00
Postage		1344.11
Expenses		1212.24
Leaflets and Stationery		633.81
Mouse Mats		947.08
New Monitor		257.17
FREEPOST address		115.00
Total	10064.73	9266.26

Balance of Income over Expenditure £6654.94

RM User Group Training Weekend Statement of Accounts October 1991

	Income	Expenditure
Delegates Fees	10506.50	
Profit from 1990	1064.26	
Interest	156.09	
Conference Centre		7825.03
Hotels		1026.00
Instructors Fees		1570.55
Transport		86.45
Stationery and Printing		442.95
Insurance		100.00
Secretarial		100.00
Organiser		200.00
Total	11726.85	11350.98

Balance of Income over Expenditure £375.87

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15th Annual Training Weekend

Friday October 23 to Sunday October 25, 1992
at The NOVOTEL, Stevenage

The Training Weekend will provide hands-on courses for all participants together with inside information from RM. The two themes currently planned are Primary Education and Network management. A detailed programme is being prepared. If you have any requests, ideas etc. please forward them with your deposit before May 1, 1992.

Delegate Fee:	Resident	£195.00
	Resident (from Saturday Morning)	£140.00
	Non Resident	£100.00

(Non User Group members please add £20.00 to costs)

To Secure a place please send a deposit of £25.00 to

RM User Group Treasurer
Aston Drey
38 Marsh Road
Wilmcote
STRATFORD-UPON-AVON
Warwickshire
CV37 9XR

Please make all fees payable to
RM User Group Conference

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Our memory boards are made from top grade components using accurate industrial manufacturing techniques, to achieve close tolerances and high reliability. This gives you a long, trouble free working life, backed up by our THREE year warrenty.

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R10	1 Mb Memory Board, upgrades PC186 to 1.5 Mb	**£65.00**
CHIPSET	512 Kb RAM, upgrades R5 to R10	**£35.00**

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ECCTIS on CDROM

Phillip Fox

The worksheet on the centre pages of this issue is the first in a series of worksheets that aim to cover all of the CD-ROMS supplied by RM as a CD-ROM package. The worksheets are not designed to replace the user guides or manuals that are supplied with the packages, but to provide a worksheet that can be used by students (and/or staff) to polish their skills in using the package. To aid reproduction the worksheets are going to be printed in the centre of the magazine in A4 format so that they may be photocopied easily. Hopefully this will provide a source of material for staff who are pressed for time to develop their own material.

The first worksheet in this series is designed to be used with the Spring 1992 edition of ECCTIS (although older and newer versions should not render it unusable). Future worksheets will cover The Times (1991); Groliers Encyclopaedia; Library of The Future; Neris (both Windows and GEM versions); and The CIA World Fact Book.

The following are the answers to the questions on the next page and they are taken from the 1992 Spring Edition of ECCTIS.

Q1 There are 81676 courses listed.
Q2 There are 4 courses in brewing.
Q3 There are 2221 courses in East Anglia.
Q4 There are 1918 courses offered by London Universities.
Q5 PCAS Y600
Q6 Huddersfield, Leeds and Sheffield Polytechnics.
Q7 Either BSc(Hons) in Computer Science
Or BSc(Hons) in Computing and Artificial Intelligence
Q8 Essex University offers 176 courses.
Q9 University College London
Q10 Middlesex Polytechnic and Roehampton Institute.
Q11 A Diploma in Advanced Chemical Technology at University of Manchester Institute of Science and Technology.
Q12 Dudley College of Technology.
Q13 MPhil/PhD in Neurology or Diploma in Clinical Neurology.
Q14 Queens University at Belfast, 2 'A' Levels or 1 'A' Level for mature students.
Q15 Jordanhill College and Crewe and Alsager College.

ECCTIS is a CDROM which carries details on courses available in Higher and Further Education. It is particularly useful for pupils about to leave school but they can only get the most from it if they understand how to use it; this worksheet could be used as an introduction so that they can get a feel for how it works. Once they know this they will then be able to work on their own inquiries.

If you have produced any worksheets, not necessarily on CDROM, which you would be prepared to share with others then please do send them in. If they are based on a data file which you have created for use, for example, with Superbase or Excel, then would you also consider donating a copy of the file either to the User Group library or making it available to anyone who writes to you. I don't want to fill up the magazine with worksheets but I'll start the ball rolling; I have a Superbase file (or it could be a Quest file or an Excel file) which lists all the number one records from 1955 to the present day. It has an accompanying worksheet and you can have it if you send a 3.5" disc and an SAE to me at 46 Ollgar Close, Shepherd's Bush, London W12 0NG

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ECCTIS

Firstly just using the simple search options.

Q.1 How many courses are there details of on ECCTIS?

Q.2 How many courses are there in **Brewing**?

Q.3 How many courses are there in East Anglia?

Q.4 How many courses are offered in London's Universities?

Q.5 What is the course code for Modern Languages at Wolverhampton Polytechnic?

Q.6 Which polytechnics offer courses in Yorkshire and Humberside in Nursing?

© Phillip Fox, 20 April, 1992

ECCTIS

Now using the more advanced search options.

Q.7 What course has the UCCA code G5C8?

Q.8 How many courses are offered by Essex University?

Q.9 Which institutions should a student who wishes to study Italian with French in London apply to?

Q.10 Where would you recommend a student wishing to study Drama with French on a part-time course to apply?

Q.11 What courses could a student not wishing to leave the North West study involving Chemistry?

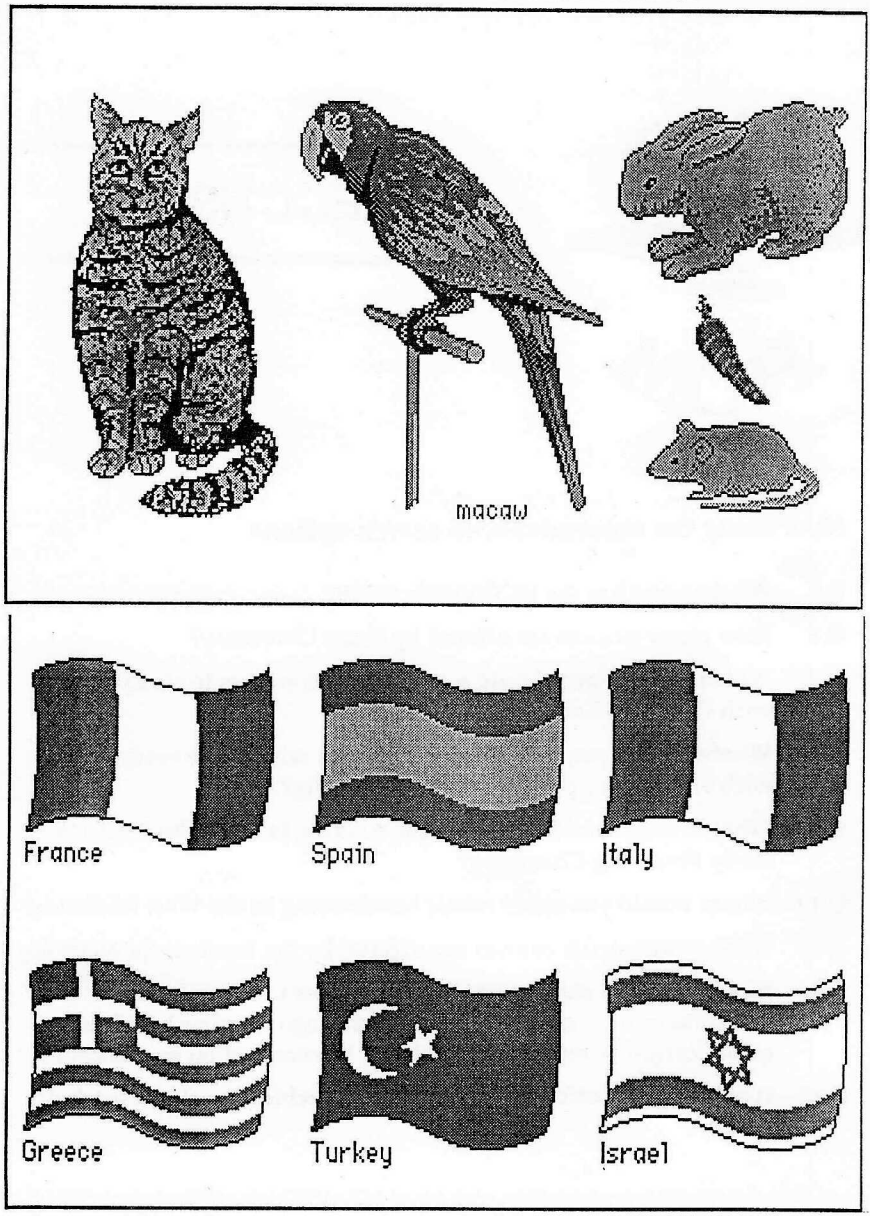
Q.12 Where would you study ethnic hairdressing in the West Midlands?

Q.13 What postgraduate courses are offered by the Institute for Neurology?

Q.14 Where would a student apply who wishes to study Religious Studies in Northern Ireland on a part-time non-degree course? And what qualifications would they require to be accepted on such a course?

Q.15 Which colleges offer courses in teaching which involve a sandwich element?

Some sample pictures from the new artwork disc 2 for NewSPAper



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SCSI? Si, grazzi!

Mike Fitzgerald

As my fileserver had only a 60Mb hard disk and was regularly running at 90%+ full I was in serious need of some extra storage. The two options that I could consider were either send it back to RM for an upgrade/ replacement or buy some and fit it myself.

The first option ruled itself out for two reasons - not only would I be without a network for some time but it was going to cost around £600 for the 110Mb replacement. Looking through the adverts in the press this seemed very expensive when you consider that I would be losing my 60Mb drive!

So I took as wide a look at the situation as possible - I would need a tapestreamer sooner rather than later and I might need more backing storage eventually, too. Also, I didn't want to fill all the expansion slots when one card could service all these and other needs.

I try never to spend money - others or my own - until I am happy that I am getting the best I can afford, but performance doesn't come cheap. And performance is arguably even more vital on a fileserver than on the desktop. It is generally accepted that it is down to IDE or SCSI for performance but only SCSI offers the ability to support multiple devices.

I wrote to seven suppliers of SCSI drives and host adaptors and received only one reply and that was from Thame Systems. I phoned Thame to see if there would be any special problems putting a SCSI adaptor into a fileserver compared with a desktop PC and was reassured that there would be none.

A couple of weeks later my Adaptec AHA 1542B (SCSI-AT) Adaptor and Quantum LP105S drive arrived. You should order a 5.25" frame to house the drive in the bay and the kit version as this provides you with the necessary leads and drivers.

My only criticism is that the drive comes with no documentation whatsoever and is packed in an anti-static bag without a "proper" proprietary box - this seems to devalue the product.

Fitting the AHA (Adaptec Host Adaptor) 1540B/1542B

The AHA 1542B differs from the 1540B in one respect only in that it has floppy disk support. The 1540B is preferable as the floppy disk support must be disabled on the 1542B. Otherwise the adaptor is a "conventional" full-height 16-bit AT card. A quick look at the adaptor shows you it is a superbly engineered product which oozes quality.

Before fitting the adaptor three of the jumper settings need to be altered. Refer to Page 2-2 in the Adaptec User's Manual for the location of the jumpers. If the adaptor is the 1542B version then disable the floppy disk controller by removing the jumper across Pin Pair 1 on J8.

The second change involves relocating BIOS Address from the default dc000h to c8000h. This entails adding jumpers across Pin Pairs 7 and 8 on J7. This change is only necessary if the machine is being used as a fileserver as the default address clashes with the server software.

Finally, change the IRQ to 12 from the default 11 if the adaptor is being fitted in a server with an Ethernet card in. If the server has one Z-Net card in the IRQ should stay at 11. I do not have access to a server with more than one Z-Net card in so you may have to experiment with IRQ values.

The Port Address of 330h should **not** be changed. If there is a clash then, in preference, the Port Address of the other card should be changed.

Initially I installed the adaptor in a VX/ 2 with a Z-Net card. The IRQ of the Z-Net

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card is 12 and the Port Address is 350h and so no problems were encountered. Since installing the adaptor I have moved up to Ethernet. Again no problems were encountered, just remember different IRQ and Port Addresses must be used for every card. For the Ethernet cards I use IRQ 10 and I/O Base (Port Address) 300h for one card and IRQ 11 and Base 340h for the other.

Table 1

Card	IRQ	Port
Ethernet 1	10	300 (Option 12)
Ethernet 2	11	340
AHA154x	12	330
Card	Jumper B	Jumper C
Ethernet 1	Pin Pair 1	Pin Pairs 9 and 10
Ethernet 2	Pin Pair 2	Pin Pair 9
AHA 1542x	Jumper 9 Pin Pair 12	Jumper 5 Pin Pairs 9 and 10

Fit the adaptor in a free 16-bit slot according the instructions in the VX manual.

Fitting the Quantum Prodrive

Before fitting the Quantum Prodrive remove the jumpers across Pins A0, A1 and A2 to set the its address to zero. Then fit the drive into the adaptor kit so that it can be mounted in a 5.25" bay. I found it easier to put the original harddrive at the bottom, the floppy drive in the middle and the Prodrive at the top, fitting them in that order.

Push the Prodrive home on the sliders and connect the umbilical power supply lead and the multiway cable from the drive to the SCSI adaptor. There isn't a great deal of room behind the drives, so position the cable carefully. Finally, refit the lid.

Formatting and Partioning

Before using a new drive it must be formatted and partitoned, however Quantum Prodrives are already low-level formatted. First boot the system using a floppy disk with only the most minimal CONFIG.SYS file.

The only repercussion of the change in BIOS address is that the DEBUG address to access the onboard utilities in the BIOS EPROM must now be c8000:6. You need to run DEBUG and follow the instructions if you need to low-level format your drive.

Then partition the disk using FDISK and high-level format it using FORMAT.

Finally, run XSETUP to make two changes. The first change is to disable copying PVGA BIOS into RAM. Press F5 (Other options) and toggle F6 to "NO". The second is to relocate the Sub-BIOS memory. Now press F8 and change the address to 90000h. These changes are necessary as the default settings result in memory clashes.

The Sub-BIOS clash took me four weeks to resolve as the sypmtoms only existed when more than twelve stations tried to log onto drive D. The problem was that they couldn't logon and the SCSI drive's FAT, boot sector, directory and file links became corrupted. I wasn't sure if the problem was the Ethernet upgrade, the fact that I had added more stations, a burst pipe which drowned three machines before thay had been used (the water might have crept into the ethernet cable) or a power failure - I had all of these within a two or three week spell!

As stated in the manual, do not change the number of Winchesters.

Put the server boot disk in, save the settings and reboot.

You should get the Adaptec copyright messages followed by the SCSI devices search reports , something like:

```
Drive C: already assigned
Checking for SCSI Target 0 LUN 0
Drive assigned to D:
```

Assuming you have no interrupt or port address clashes the rest of the boot procedure

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will be exactly the same as before.

Incidentally, a server will not boot unless every Ethernet card is fitted with a T-piece and two terminators. Also, CONFIG.SYS must contain the line DEVICE=ZETHAT.SYS once for each Ethernet card.

Copy the file ASPI4DOS.SYS onto your fileserver from the DOS driver disk which comes with the kit and include the line

```
DEVICE=ASPI4DOS.SYS
```

in the fileserver's CONFIG.SYS file.

I installed the SCSI adaptor and drive under Net 3.0, upgraded to V3.1 and then from Z-Net to Ethernet. Apart from the time spent sorting out the initial problems, all of which have been answered here, all the upgrades have been 100% problem free.

Two small considerations need to be mentioned. One is that when new groups are created under XNETMAN their directory needs to be prefixed with D:, e.g. D:STAFF. A message appears stating that the directory does not exist, create new directory? to which you reply with "Y".

The second is that XPARK works across the interface.

First time round this took about four hours, but armed with this knowledge two hours is plenty.

I was so impressed with the SCSI adaptor and drive I have purchased an Adaptec SCSI/MCA 1640 adaptor and Quantum prodrive for my own machine.

Again, armed with this information, installation should be obvious and straightforward, as there are only a few differences require mentioning.

Fitting the drive in requires two plastic threaded pegs. I could not obtain these and had to fabricate them. The pegs are used to secure the drive into bay, in a similar manner to floppy drives.

Secondly, you need to make or buy a power lead. The lead, which needs to be no more than four inches long and of a low power rating, should have the four way, female, connector used on most diskdrives at one end and a similar but miniature version at the other. The pins are connected 1 to 1 , 2 to 2, 3 to 3 and 4 to 4.

Finally, run PSETUP and change the interrupt to 14. This is only necessary, however, if you intend to run BBCBASIC. Save the settings and reboot.

The only downside is that if you install the driver in CONFIG.SYS (i.e. DEVICE=ASPI4DOS.SYS) then XPARK does not work. I get round this by rebooting from a floppy disk without the driver and putting XPARK in AUTOEXEC.BAT. I prefer to install ASPI4DOS.SYS as it speeds up transfer rates and accesses the harddisk LED on the motherboard.

It takes a bit longer to boot the MCA version because the adaptor looks for all the physical or Target devices and then all the logical or LUN devices, whereas the AT version does not.

In conclusion, I can honestly say that this is way and above the best way to increase your backing storage. I have no hesitation in recommending both the Adaptec SCSI card and the Quantum Prodrive. Both perform exactly as one would wish.

Both are available from Thame Systems Ltd., Thame Park Road, Thame, Oxfordshire, OX9 3UQ, telephone 0844-261226.

Prices:

Adaptec AHA1542 (SCSI/AT kit) £228
Adaptec AHA1640 (SCSI/MCA) £259
Quantum LP105S Prodrive £358
Frame £5

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Numerator from LongmanLogotron

Bill Bailey

The Maths Department here at Exmouth Community College are very keen to use Numerator on our network of 186 and 286 machines. However, we have experienced very poor reliability with frequent lockups.

Things WRONG with Numerator/ Windows:

Locking up (pointer or active icon responds to movement if mouse but clicking produces nothing (or an annoying beep))

This happens unpredictably, but especially during the following two operations:-

a. Attempting to amend a system which has not been properly constructed, while it is running
b. While selecting a module from the dialogue box

This problem occurs on networked 286 machines, but has also arisen on a stand-alone 286 machines. In the latter case, on two aoccasions the error message "MAXIMISED SHOULD BE SET TO 0 IN WIN.INI" was received. On another, an attempt to paste a bitmap into WRITE led to the latter being terminated ("SYSTEM ERROR") except that the OK button was dimmed.

When used on a number of network stations (maximum number tested 16 x 186's) if one locks up the rest follow within a short space of time. The other stations on the network behave normally.

Text on 286 machines

a. You can't see what you're writing until you press return.
b. Some lines of text are horizontally truncated when loaded as part of a workspace.

This problem does not occur on 186's

System Configuration

The following hardware and software settings have been tried with similar problems:

WIN.INI

No information is provided in the documentation regarding the system parameters. We have used our standard settings and modified WIN.INI to include the lines

```
[Numerator]
Help = P:\NUMWIN\NW.HLP
```

P: is a read only drive. Users work from N: which has full read write access

Windows V2 runtime supplied by Longman Logotron

Windows V3 running in real mode (supplied by RM)

The hardware used has been Nimbus 186 (1Mb RAM) running DOS 3.1 firmware >1.32C

Nimbus 286 M-series (2Mb RAM) running DOS 4.0 both machines have been used networked (Net 3.1) and stand-alone

Have other RM users had similar problems? Has anybody found a cure? Or shall I ask for my money back?

Bill Bailey may be contacted at Exmouth Community College, Gypsy Lane, Exmouth, EX8 3AZ

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The Technical Guide to Windows

Reviewed by Steve Rochford

Windows 3 is the biggest single software development in the past two years and has brought with it the biggest crop of books and magazines, all of which attempt to tell you how to get the most out of Windows. This book, written by two of Intel's employees, is aimed at the fairly experienced user but probably has something for everyone.

It starts by taking you through the use of the Setup program (not that necessary if you always run Windows on RM machines where it comes pre-setup) and explains the meanings of some of the entries in SETUP.INF. This is extremely useful if you do have to install a lot of copies of Windows because by editing this file you can make sure that each user gets Windows customised in the way you want it to appear although, again, RM make this simpler on a network.

The book then goes on to give a detailed explanation of the different modes in which Windows can work; Real, Standard and 386 Enhanced, and explains the circumstances in which each is available and not available and gives some idea as to which mode you might choose. Although Microsoft had not released Windows 3.1 when the book was written, it was available in beta test form and the book comments on some of its differences; for example, Real mode is no longer available.

The contents of the .INI files are covered next, including explanations of some of the sections which standard Windows knows about but does not allow you to access directly. For example, you can adjust the colours of some of the buttons by adding the following three lines at the end of the section in WIN.INI that starts with [colors]

```
Buttonface= n     n     n
ButtonShadow=     n     n     n
ButtonText= n     n     n
```

Just replace all the *n*s with numbers to specify the red, green and blue content and you can have the most horrible colour scheme!

Sensibly, the book does not attempt to reproduce all Microsoft's documentation but just points you to the right place (in the case of the INI files, it's the ???INI.TXT files in your Windows directory; if you've never read them they are worth a look).

The chapter which explains the use of Program Information Files (PIFs) is really useful if you are going to run DOS programs from Windows. I often run dBASE III from Windows and, at last, I've been able to work out the best way to set it up; Windows in 386 mode allows you to leave a DOS program running in the background while you do something else. For me that means that I can play Solitaire while dBASE re-builds the indices!

The next chapters give some general information on the way you should set up DOS for best results from Windows (and this book gives one of very few mentions I've seen of the stacks command in CONFIG.SYS; this seems unimportant to most software but I wish it were better documented so that if you use one of those programs that are affected by it you would know what to do). There is extensive discussion of how to set up MS DOS 5 for use with Windows and this is not just a list of "do this" instructions, but explanations of what you are doing and why. I think this chapter does go on for too long, however, and makes the mistake, avoided elsewhere in the book, of repeating information from existing manuals.

This is followed by an explanation of the different types of memory (main, extended, upper, expanded and virtual) and how you can maximise each type. This maximisation process is a compromise (for

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example, introducing expanded memory takes away some upper memory so device drivers that might have been loaded in upper memory will have to be loaded in main memory) but if you read the chapter, and know what kind of memory the programs you are trying to run will need, then you should be able to get good results for your computer. Again there is mention of the way in which Windows 3.1 improves things and there is also information about third party memory managers such as 386 Max from Qualitas

The chapter on Windows applications gives lots of tips concerning the accessories that come as part of Windows and also discusses Adobe Type Manager, Word for Windows, and Excel. The information given is brief but useful. Finally there is a discussion of Object Linking and Embedding (OLE). This allows one application to have files "belonging" to another application embedded in its own documents. For example, in Word for Windows 2 you can draw a picture using the supplied Draw program and include it in the document. This is unlike pasting a picture via the clipboard using Word 1, however, because if you double click on a picture in Word 2 it will automatically load Draw and load the picture into it ready for editing. In a non-OLE package the picture is fixed; you can copy it back to the clipboard and then into a paint program but double clicking is much simpler.

There's a lengthy discussion of graphics displays that you can use with Windows and which of the possible modes are best (the answer is 800x600 in 256 colours; reasonably fast, reasonably high resolution and not too expensive) and then a whole set of Hints and Tips. There are some really useful ideas here (and some fun; if you don't like that blue Windows logo at startup then you can edit it if you really want). There are a number of hints to try and help you avoid Unrecoverable Application Errors (the one good thing about running Windows on a PC186 is that you'll never see a UAE; it doesn't run in protected mode so they simply can't happen).

The chapter on End User development contains a number of suggestions for designing dialogues with Excel and programming in Visual Basic. It's quite interesting but it seems to be out of place. The final chapter covers running Windows on a Banyan Vines network; I don't know why! It's not the most popular of networks and a lot of the information won't be directly transferable to other networks.

I liked the book. It contains a few errors (eg using \ instead of / in a filename) but nothing to cause problems and it does have a wealth of information for those who want to know more about how to get the best from Windows.

The Technical Guide to Windows (246pp) by P Coleman and A Cotterill is published by Blackwell Scientific Publications, ISBN 0-632-03374-6.

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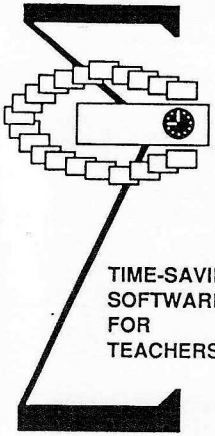

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The index which follows is an attempt to list the contents of the last year's issues of the magazine. Apologies to all those skilled in indexing for the fact that this probably doesn't look anything like a proper index and also to those whose article titles I've mangled to make them fit!

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Superstor for Laptop and Network Station Hard Discs

Stewart R. Bondi

RM's NB340, 40Mb laptop has got to be the best thing since sliced bread but unfortunately, Windows, and Windows-based applications quickly fill up the 40Mb capacity of the hard disc. Before I can add new software, I have to first delete other programs, which I later have to reinstall. This is a pain and a time consuming exercise. I am also experiencing the same space problems with network stations that use a local hard disc. I have purchased two turnkey specialist machines and added ethernet cards, such that they can function as network stations when not used in their specialist mode. As a part of the licensed network stations, I download a range of network bundle software so that performance is improved by running from a local hard disc.

Then I heard excellent reports about Superstor which can effectively double the storage capacity of a hard disk. It does this in a number of clever ways, including "shorthanded" repeated segments of code and improving use of sector space. The compression and decompression software is claimed by the suppliers to be completely transparent to the user, without impairing the performance of programs. In fact, they claim some programs will improve in performance. I was suspicious; can it be true that an extra DOS file handling process does not have a knock on loss in performance? Still, if everything is carefully backed-up, if I don't like the side-effects (such as a loss of 50k RAM for the Superstor device driver), then I can always restore the computer to its original settings.

Meanwhile, new M-Series computers are being shipped with DOS 5 pre-installed on their hard discs, and I have established that the new Net LM Server will download DOS 5 to M-Series network stations. So it seemed a good idea for me to reformat the laptop with DOS 5, prior to installing Superstor. This would allow me to try out the new facilities in DOS 5, and also load the Superstor 50K device driver in upper memory blocks, leaving a maximum amount of conventional memory for my programs (Falcon 3 requires DOS 5 and a minimum of 600k conventional memory!!!, as an example of RAM hungry new generation software).

I spent a lot of time reading the detailed handbook and carefully backing up everything, before formatting with DOS 5. One thing confused me, how could a compressed hard disc Superstor device driver be loaded from a compressed config.sys file, such that compressed files could be decompressed in the first place? A quick call to the suppliers put my mind at rest. Approximately 0.5Mb of space is automatically left uncompressed (and hereafter referred to as the physical drive). Key files, including config.sys and sstordrv.sys, are uncompressed by being copied to the physical drive. On boot-up the files in the physical drive are read and loaded, and once the Superstor drive has been attached, you are then automatcially switched to the compressed logical drive.

So it all started with my having reinstalled Windows, together with its associated applications, I had 15Mb of space left. I installed Superstor, corrected the config and autoexec files to be sure that the Superstor device driver was installed at boot-up, but other devices were not, and that disk-caching was not enabled, and then set Superstor to work while I sat back and gnawed my finger nails. Within a short space of time it was all over and so were all of my worries. CHKDSK reported that I now had an amazing 53Mb of free space, on a 40Mb harddrive, on which I already had DOS 5, Windows 3, Word for

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Windows, Excel 3, and a range of smaller programs.

Now this would be really useful if I could only do the same thing on a network station, and be able to read both local compressed files and network uncompressed files. So I installed Superstor on a PC386 network station's hard disk. I then modified a unique config.sys file for that station, so that when it boots from the server it correctly installs the Superstor device driver. Since the stations currently load DOS 4, and as highload has absorbed space in the upper memory blocks for network device drivers, the 50k driver has to sit within conventional memory, reducing this to 465k. However, I can successfully use Windows and exchange compressed local files with uncompressed network files. Generally though, I don't need to access the local hard disc when I am booting from the network. So for most of the time this station uses a default address, such as 82. When I want to access the compressed files,all I need do is change the station to an appropriate address, such as 88, to pick up the unique previously prepared Superstor config.sys file (config.088) - without needing to reset the server. As station address 82, the station boots up with a more acceptable amount of conventional memory. An unexpected benefit of Superstor has been a considerably enhanced level of security for the contents of the station's hard disc. Now, without Superstor device drivers being loaded, the user in DOS or Windows can only "see" the four uncompressed files on the hard disc, the remainder are totally invisible and will remain so even if the user boots from their own DOS system disk.

Thanks for the Memory

In order to load Superstor and other device drivers into upper memory (and so release the maximum amount of conventional memory for your applications) you must be sure to set up the correct order of commands in the boot config.sys and autoexec.bat files. These differ slightly on a NB340 laptop and an M-Series station. For the NB340 the optimal sequence that I have worked out is as follows:

Listing for config.sys

```
files=30
buffers=20
stacks=0,0
dos=high,umb
device=\sys\himem.sys /m:2
device=\sys\nb.sys
device=\dos\emm386.exe noems
devicehigh=\sstordrv.sys
device=\devswap.com
country=44,437,\sys\country.sys
install=\dos\keyb.com
uk,437,\sys\keyboard.sys
devicehigh=\sys\mouse.sys
devicehigh=\sys\smartdrv.sys 1024 256
device=\sys\signon.sys
```

Listing for autoexec.bat

```
@echo off
cls
prompt=$p$g
path=c:\dos;c:\windows;c:\menu;c:\addstor
set temp=c:\windows\temp
loadhigh doskey
```

Obviously your path statement will vary according to your requirements, but addstor must always be included. The resultant free memory for DOS to use is 613k on my machine, which I find quite remarkable after finding somewhere in the region of 529k when using DOS 4.

On an M-Series machine you would replace nb.sys with rm.sys and this will allow you to have the option of using rmumb.sys rather than emm386.exe. This has a number of advantages, the first of these is that you can use rmumb.sys on PC286's as well as PC386's. The second is that rmumb.sys avoids the overheads of memory management functions of emm386.exe, most of which you will not need. If you wish to experiment with your memory management options you should first refer to Appendix B of RM's MS-DOS 5 user guide.

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Teething Problems

Having installed some more software, I felt I deserved some relaxation. DOS reported over 27Mb of disk space to be free, 13Mb in "real" terms. It seemed to be sufficient for me to install Falcon 3, requiring 12Mb of space. So I set to work to install the 5 discs. During the decompression of files on the third disc, the installation process was aborted and I was returned to the DOS prompt. I did a directory listing and DOS reported 6Mb of free disc space. I ran CHKDSK which normally returns a corrected value of free space, but this time it continued to report 6Mb. It also reported that I now had 19.5Mb of bad sectors on the hard disc. I was alarmed, to say the least. Now, this was two weeks on from installing Superstor, and following a short vacation, so I didn't recall all of the details I had scanned in the manual. So at 5:15 that evening I rang their technical support. I was relieved to find them still at work, and very impressed with the care they took to talk me through what had happened. What had occurred was not a glitch, but Superstor's own efforts to protect data form being overwritten by installing files beyond the actual capacity of the disc drive. This is covered within the manual, but I didn't recall the detail when the problem came up. It is also more clearly referred to in the release notes for version 2.

When I installed Superstor, I accepted the compression ratio to be standard, thereafter Superstor assumes a 2:1 compression ratio. DOS now is informed that there is twice the normal capacity, and CHKDSK returns a corrected 50% report. However, actual compression ratios will be above and below this level, depending on the nature of the data that Superstor is compressing. The manual suggests that the ratios will range from between 1.4:1 for Executable Programs, to a possible 8:1 for CAD/CAM. Running the SSUTIL program, offers an analysis of the hard disk. Running this I noted the actual compression ratio over the whole disk is an average of 1.4:1, an effective compression of 32% and not 50% as assumed. It further reported errors in the FAT and running the repair option allows me to recover the marked bad sectors. Since the majority of the disc space I am using is for sophisticated software, this effective compression ratio seems reasonable. Now what I understand to have happened when I was installing Falcon 3, is that the actual space available was less than I expected. Since the data couldn't be compressed to fit in the remaining space so Superstor mapped out "bad sectors" (and if the error has a high severity level the available disc space is set to zero) so that DOS realised that there was no longer sufficient space to continue the installation, thus aborting the process. Running Repair corrected the situation. I then deleted the Falcon 3 files, deleted some other programs, and continued until SSTOR statistics report showed sufficient Actual Free space to be sufficient to install Falcon 3. This has now been successfully installed, and I am in the process of restoring the other software to fit within the capacity of the hard disk.

Whenever you alter config.sys you must run ssutil and select update from the menu. This compiles an edited version of config.sys. Any device drivers that precede Superstor are copied to the uncompressed physical drive, along with the compiled config.sys file. They are placed in the root, so the edited version of config.sys has amended path statements. This process is automatic but does not cope with rem statements and produces a meaningless compilation. The solution is to simply edit out all rem statements in your config.sys files. If you use emm386.exe as a memory manager, Windows must start in enhanced mode. This immediately results in an error message, stating that emm386.exe is not found on the path. Why not, since \dos is within my defined path? The answer is that when

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config.sys was modified by the ssutil update program, emm386.exe was copied to the root of the uncompressed physical drive and the device line corrected to reflect this (so rather than device= \dos\emm386.exe it now reads device=\emm386.exe). This path remains effective when Windows starts up and it checks in the root of the compressed logical drive and fails to find the program. The solution is to simply copy emm386.exe to the root of the compressed logical drive.

Version 2 has just arrived, running install provides the option to upgrade and all updates are then automatic. I then tried to run a new option called recompress, this is a lengthy process that can take a few hours to complete but can achieve a further 5 to 20% compression. The improved manual suggests that a minimum of 1.5Mb should remain available before using Superstor to compress or defragment. I had 1.9Mb, and I obtained an error message (about disk structure errors) during the defragment phase of recompression, resulting in an apparent loss of 3.5Mb space of the disk. By removing Falcon 3, I greatly increased space, I re-ran defragment and was rewarded by a restoration of the missing 3.5Mb and a final compression ration of 1.6:1, a space saving of 40%. I am not sure whether the error was due to insufficient hard-disk space, or too many files (Falcon 3 includes a great number of data files) for the space in the FAT. Running recompress thus gave me an extra 8% compression, improving from 32% to 40% space saving, a ratio of 1.6:1 compared to 1.4:1. Version 2 also allows you to create special floppy disks that can be read by any system, including those without Superstor installed. Imagine turning a HD floppy into a disk with 2.5Mb capacity! This option is limited to read only, useful if you only want students to access an original file and not be able to save changes to that disk. Read/Write is of course available for these floppies when using a system which has Superstor installed.

All told, I am very impressed with Superstor, both in terms of the software, and the quality of technical support. If you are suffering from the confines of a small hard disc or simply want to safeguard files on a network station hard disk, then this has got to be the program for you. Superstor is available from: Elite Software Products Ltd, 102-104 High Street, Coleshill, Birmingham, B46 3BL, 0675 464488. Educational discounts are available and a phone call can't do any harm

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Hints and Tips

Superbase 4 on the Network

Problems with Superbase 4 on the network are often caused by two things; people giving a password and forgetting it and the file becoming locked even when no-one is using the file. There is nothing that can be done about the first (as far as I know) but you can cure the second. Start Superbase and choose DML Command from the menu bar. Type the following:

```
OPEN FILE CLEAR "filename"
```

but put the name of your file in place of *filename*. This opens the file and clears all locks. Immediately close the file and then open it using File Open from the main menu. Everything should now be OK. Alternatively (and, perhaps easier for pupils to use) key in the following DML program while logged on as Network Manager and save it as CLEARER in M:\PUBLIC\SB. When someone has a problem, tell them to use the DML Open command to open the file called P:\SB\CLEARER and then run it. When asked for a name they simply type in their own file name and then their data is recovered.

```
ASK "Enter name of file :";n$
OPEN FILE CLEAR "n:" + n$
SELECT FIRST
WHILE NOT EOF ("")
SELECT NEXT
WEND
```

You might also like to try entering the following DML command:

```
WAIT FOR IT
```

this gives what's often known as a "gang screen"; it's no use but it cheers up a wet afternoon!

Word for Windows

If you are printing on a printer with a sheet feeder and you want the sheets to be stacked the right way round then tell Word to print from (say) page 9 to page 1; Word prints in reverse order and so the sheets end up the right way round.

Gang screens for Word

For version 1 choose Format Define Styles, choose the Normal style and then select Options. Scroll through the Based On list until you reach Normal and then click OK to the error message that appears. Cancel the dialogue box and then click on Help and choose About. Put Caps Lock on and hold down the four keys O, P, U and S at the same time. You can stop the show by pressing ESC.

For version 2, define a global macro called SPIFF. Delete the contents of the macro (the text from Sub Main to EndSub), close the window and save the macro. Click on Help and choose About and then click on the word icon and then watch in amazement at the amount of work that must have gone into the display!

Corrupt files on the network

Sometimes a batch file or even a .EXE or .COM file will seem to be corrupt when you know that they are read-only and no-one can have changed them. This seems to happen most on busy networks and is always cured by restarting the server; no help when the network is busy and you *can't* stop it but at least you won't spend hours looking for a problem which simply isn't there! I have my server plugged into a time switch so that it switches off overnight and comes on early in the morning. This seems to help; I can only think that something is getting mixed up in the server's memory (perhaps in the cache provided by Smartdrive), and restarting it allows this to be sorted out.

Setting up a print server

There are two ways of trying to improve printing on the network. One is to use RM's remote printing option pack and the other is to set up a dedicated print server. The former is cheaper (the machine doesn't need a hard drive so it can be a cheap TN,

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the software costs £99) the latter is likely to be much faster and relieves some of the pressure on the main server. If you want to set up a print server you need a hard disc based machine with a network interface and it needs to be set up with the following files:

AUTOEXEC.BAT

```
@echo off
cd \network
path c:\dos
cls
net start server prserver
```

CONFIG.SYS

```
buffers=20
lastdrive=255
fcbs=20,20
stacks=0,0
device=c:\sys\rmnet server
device=c:\sys\zethat.sys
device=c:\sys\himem.sys
device=c:\sys\smartdrv.sys 2048
device=c:\sys\rmdevice.sys
install=c:\dos\share.exe /f:1000 /
l:50
shell=c:\command.com /p /e:2048
```

Note that the zethat.sys is the ethernet driver for an X series machine; if it is an M Series machine then you need zethmc.sys in its place. The files that you need will all be on a normal station's hard disc or on its network boot disc. Make sure that you copy them to the SYS directory if necessary.

You need to create a directory called network and put in this the files:

net.exe, setname.exe, share.exe, psprint.exe, server.exe, rmnetb.rmv, chknet.exe, rmnetb.exe, minses.exe, nbstart.exe and netfile.exe. You must also create a sub-directory called spool in network.

Using a text editor such as Windows Notepad or Steed, create the file MSNET.INI in c:\network containing:

```
start server $1
start srv $1
   chknet
   rmnetb.rmv /boot:0 /nbufs:80 /
nsess:48 /ncmds:64
   nbstart
   minses
   setname $1
   psprint
   netfile
   server /s:c:\network\spool
/c:400 /o:200 /n:50
/i:c:\network\offers /f:750 /l:50
/c:\network
```

Note that the rmnetb and server lines should be unbroken and all the lines after the two start lines are indented by 3 spaces.

Similarly create a file in C:\network called offers containing

```
share epson=lpt1
status
```

and a file called printers.net containing:

```
epson epson prserver
```

Note that the name Epson is the name by which the printer will be know to the network; you can call it anything you want and prserver is the name of the server.

At a station you want to use this printer you type:

```
use lpt1 /d
use lpt1 \\prserver\epson
```

The first line disconnects any existing network printer (you'll get an error message if you didn't have one connected in the first place but it doesn't matter) and the second makes a connection to the new printer. From now on you can just print as normal.

Adding programs to a blue menu

The easiest way of making programs available on a menu is to use a batch file. RM supply files for all the software that comes on a network so all you need to do is put the name of the batch file in the *pathname for the program to run* section and then leave the rest of the entries blank.

If you are wanting to add third-party software then you may have to write your own batch files. RM supply two example files (EXAMPLEP and EXAMPLEQ) which can generally just be edited to work; look at the comments in them to see what needs to doing and then test them at your N:\> prompt; if they work now then they *should* work when you add them to a menu.

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Column widths in Excel

If you have entered data in Excel and you want to adjust the columns so that they are wide enough for all your entries to fit, drag a highlight across the columns to be changed, move the mouse pointer so that it is in between two of the column headings and double click; this is a short cut for using Format Column Width and choosing best fit.

Windows' Gang Screen

With all applications minimised so that only the desktop and icons are showing, press and hold down F3. Type WIN3, let go of F3 and press backspace. This is rather tame compared to some of the other screens but simply lists all those involved in Windows.

Xtree Gold

The program RMNETWIN.COM, which is used to start Windows 3 on a Net 3.1 network, copies the .GRP and .INI files for a restricted user from the public directory each time a user starts and will delete them when the user quits Windows properly. Unfortunately, not all users do this; CTRL ALT DEL is all too common a way out and within a few days there are megabytes of wasted space.

You could use RMTREE DEL M:*>GRP /E and rely on the fact that the public copies are read-only but this causes problems if you have any unrestricted users because their group and INI files go too! Use Xtree to log the whole of drive M and then unlog the public directory (click on it and then press -). Similarly, unlog any groups which contain unrestricted users. Now press F to set the filespec and type *.GRP *.INI (note the space between the two filenames). Press G to get a global display and then ALT S D to sort the files in order of date. Press CTRL T to tag them all, move down to the end and untag the ones with today's date then press CTRL D N to delete them all without prompting. It takes a while to describe and hardly any time to do (well, it takes a while to log a large server; go an put the kettle on while you wait!) but doing this once every few days keeps the wasted space to an acceptable level.

Sytos

I recently backed up an AX with a 60Mb hard disc using Sytos and then reformatted the disc using FORMAT C: /S. I followed all the prompts and everything seemed to go well. I re-installed Sytos and then tried to restore the files from the tape. After just a few files I got a "disc full" error and Sytos terminated. After a lot of effort I found that the problem was not a full disc but a disc error (DOS gives the same message to an application when it tries to write a file; you almost have to guess whether it really means disc full or disc error!) I knew that the hard disc had bad sectors but for some reason Format had marked them all as good (and even Xverify though the disc was good). Norton Calibrate found that they were bad, marked them as bad and then Sytos worked fine! The moral of this tale is probably that you shouldn't format hard discs unless you reallly need to and if you do, make sure that you have a full backup and some good utilities (Norton Utilities are worth their wait in gold for all sorts of odd problems)

Micro Mart

For Sale: I have twelve MCA ZNet cards which are surplus to requirements. If you want them all or individually they are only £40 each. Phone Mike Fitzgerald at Walbottle High School, Newcastle upon Tyne on 091 267 8221.

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Communications

I welcome submissions for the magazine from anyone. You don't have to be a great writer to send something in; send a letter or a short tip for the Hints and Tips pages, everything is welcome. If you want to phone and talk something over then please do; even if you aren't sure how to write something down then I can always include your ideas in Hints and Tips or as a plea for help.

I would be particularly pleased to hear from the people who are using RM computers at home; there are quite a lot of you out there. Some of you will be experienced at working with computers and I would be interested to know why you chose RM for home use. Others will have responded to RM's advertising, perhaps because your children use the same computers at school. How are you getting on with your new machine? Did you have any problems getting started? It doesn't matter if you still don't know the answer to the problem- this is how you'll find out - and it doesn't matter if you think that your problem was trivial; remember that there are many other people who are going to be in exactly the same position as you and will welcome the help that you can give.

If you are writing for me then the ideal is to send me a disc produced using Word or Word for Windows but I can cope with any word processor that runs on a Nimbus (I think). If what you are sending is short then a letter on good old fashioned paper is fine.

Finally, we pay for published articles at the rate of £5 per printed page (although all payments are at the Editor's discretion).

Advertising in the Magazine

Full and half page advertisements can be placed in the magazine and details can be obtained from the Advertising Manager. We also take classified ads and members may place free ads for surplus equipment in MicroMart.

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These rates assume black-on-white, camera ready copy. Please avoid dot-matrix output. Typesetting is charged at cost and is additional to the above rates. Classified ads must be pre-paid; cheques payable to *RM User Group*

Help!

Do you have the software for driving a BBC Buggy from a 480z? Mr G D Tee at 178 Alwoodley Lane Leeds, LS17 7PF would like a copy of it if you can help.

I am a fourth year Information Systems student and as my project I am developing an expert system which will help users to answer some of their problems with printing. This project is supported by Research Machines and I would appreciate the following information from users:

Would you benefit from the software? Would you welcome and use such a piece of software? What types of users would find the software most appropriate? What functions would you like to see incorporated in the system? Would you prefer to access the system from Windows or DOS? What features would you like the expert system to incorporate? What area would be most beneficial to users?

If you can help please contact Una Murtagh at 2 Chapel Terrace, Stafford, ST16 3AH

Membership Form

Please use capitals

Mr/Mrs/Miss/Ms .....

Job title (if appropriate) .....

Address .....

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Postcode .....

I enclose a cheque payable to RMUG/order for £15 (£20 for overseas members). If you are not enclosing a cheque then please send an official order, indicating clearly to whom the invoice should be sent.

In order to serve our members better we like to know something about them and what they do with their computers. The information you give is confidential and we are registered as Data Users under the Data Protection Act.

Are your computers mainly: ☐ standalone ☐ networked

Please tick the areas in which you are interested.

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☐ Windows	☐ Other		

Please tick the best description of yourself or your institution

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Please send your form to:

Steve Rochford, RMUG, FREEPOST, London W12 0BR

You may photocopy this form if you do not wish to cut your magazine.

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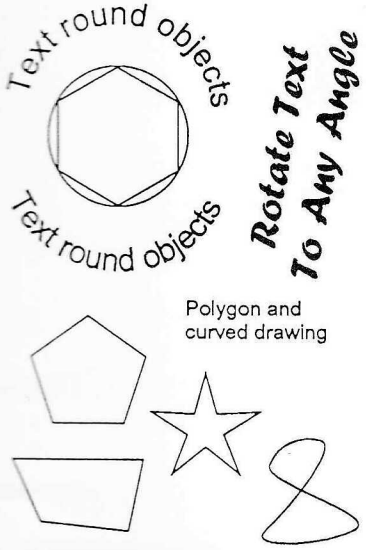
Desktop Publishing The Easy Way



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